

IN THE CLAIMS:

Kindly amend the claims as follows:

1. (Currently Amended) In a mobile concrete production apparatus including a frame supporting a mixing auger ~~mixer having a chamber~~ in which cement, water and aggregate are mixed to create a concrete ~~mix~~ mixture, the improvement comprising:

a turbine mixer supported on said frame of said mobile concrete production apparatus and being operable to receive a supply of dry cement and a supply of water to pre-mix said cement and said water into a cement paste before being introduced into said ~~chamber~~ mixing auger to be combined with said aggregate, said turbine mixer ~~including a rotatable mixing member that mixes said water and said cement~~ including:

a mixing chamber operably supported on said mobile concrete production apparatus to receive said supply of dry cement;

an inlet port cooperable with said mixing chamber to introduce said supply of water into said mixing chamber; and

a mixing member being supported for rotational movement within said mixing chamber to effect a mixing of said cement and said water upon rotation thereof to create said cement paste for introduction into said mixing auger to be mixed with said aggregate therein.

2. (Original Claim) The concrete production apparatus of Claim 1 further comprising:

a metering mechanism to meter the flow of cement into said turbine mixer.

3. (Currently Amended) The concrete production apparatus of Claim 2 wherein said turbine mixer ~~comprises~~ further includes:

a housing in which is mounted a cement conveying apparatus operable to receive said supply of dry ~~ement~~; cement for introduction into said mixing chamber.

~~an inlet port for connection to said supply of water;~~

~~a mixing chamber operably connected to said housing to receive said supply of dry cement from said cement conveying apparatus and said supply of water; and~~

~~said mixing member being supported for rotational movement within said mixing chamber to effect a mixing of said cement and said water upon rotation thereof.~~

4. (Original Claim) The concrete production apparatus of Claim 3 wherein said mixing member is formed as a mixing plate having a plurality of agitating fins mounted thereon to effect a mixing of said cement and said water to create said cement paste.

5. (Original Claim) The concrete production apparatus of Claim 4 wherein said mixing chamber is formed as a cylindrical structure having a first diameter, said mixing plate having a second diameter smaller than said first diameter to form an annular gap between said mixing plate and said cylindrical structure, said mixing plate dividing said cylindrical structure into an inner chamber and an outer chamber, said cement and said water being received in said inner chamber and said cement paste being discharged from said outer chamber.

6. (Original Claim) The concrete production apparatus of Claim 5 wherein said agitating fins are mounted on a circumferential periphery of said mixing plate for movement along said annular gap.

7. (Original Claim) The concrete production apparatus of Claim 6 wherein said cement conveying apparatus is an auger rotatably supported in said housing to direct dry cement into said mixing chamber, said auger being operatively connected to a drive mechanism for rotation thereof at a rotational speed greater than 500 revolutions per minute.

8. (Original Claim) The concrete production apparatus of Claim 4 wherein said housing includes a positionally adjustable discharge opening.

9. (Currently Amended) The ~~concrete mixer~~ concrete production apparatus of Claim 4 wherein said mixing plate is also formed with blades positioned in said inner chamber to direct material outwardly toward said annular gap for passage into said outer chamber.

10. (Currently Amended) A turbine mixer for a concrete production system having a supply of dry cement, a supply of water, a supply of aggregate and a mixing apparatus for combining cement, water and aggregate to form concrete comprising:

a housing having an inlet opening therein for communication with said supply of dry cement to receive said dry cement therefrom;

an inlet port supported on said housing and connected with said supply of water;

a mixing chamber to receive said dry cement from said supply of cement and water through said inlet port; and

a mixing plate operably supported in said mixing chamber to mix said dry cement and said water into a cement paste slurry to be discharged from said mixing chamber for subsequent mixing with aggregate to form a concrete mix, said mixing plate dividing said mixing chamber into a first chamber in which said dry cement and said water are mixed and a second chamber in which said cement slurry is further mixed and discharged from said mixing chamber, said mixing plate defining an annular gap between said mixing plate and said mixing chamber for the passage of said cement slurry from said first chamber to said second chamber; and

a plurality of agitating fins mounted on said mixing plate to be cooperable with pegs positioned in said first chamber to break said dry cement and water into fine particles for mixture into said cement slurry to be discharged through said annular gap into said second chamber.

Claim 11 (Canceled).

12. (Currently Amended) The turbine mixer of ~~Claim 11~~ Claim 10 wherein said mixing chamber is formed as a cylindrical structure having a first diameter, said mixing plate having a second diameter smaller than said first diameter to form ~~an annular~~ said annular gap between said mixing plate and said cylindrical structure, ~~said mixing plate dividing said cylindrical structure into an inner chamber and an outer chamber, said cement and said water being received in said inner chamber and said cement paste being discharged from said outer chamber, said~~

agitating fins being mounted on a circumferential periphery of said mixing plate for movement along said annular gap.

13. (Original Claim) The turbine mixer of Claim 12 wherein said mixing plate is also formed with blades positioned in said inner chamber to direct material outwardly toward said annular gap for passage therethrough into said outer chamber.

14. (Original Claim) The turbine mixer of Claim 13 further comprising an auger rotatably supported in said housing to direct said cement into said inner chamber of said mixing chamber, said mixing plate being attached to a shaft on which said auger is mounted, said shaft being rotated by a drive mechanism for rotation of said auger and mixing plate at a rotational speed greater than 500 revolutions per minute

15. (Original Claim) The turbine mixer of Claim 10 further comprising:
a metering mechanism to meter the flow of cement into said mixing chamber.

16. (Currently Amended) The turbine mixer of Claim 15 wherein said ~~housing~~ mixing chamber includes a discharge port and an adjustable slide plate having a discharge opening therein registrable with said discharge port, said adjustable slide plate being movable on said ~~housing~~ mixing chamber to vary the position of the discharge opening from said ~~housing~~ mixing chamber for varying the mixing operation of the mixing member.

Claims 17 – 32 (Canceled).

33. (Currently Amended) A turbine mixer for pre-mixing cement and water to create a cement slurry to be combined with aggregates for the production of a concrete mixture comprising:

a mixing chamber having an inner chamber receiving said cement along a first flow path and said water along a second flow path and an outer chamber for further mixing said cement slurry and discharge thereof from said mixing chamber; and

a mixing plate having a plurality of agitating fins mounted thereon to effect an atomization of said cement and said water to create said cement slurry, said mixing plate dividing said mixing chamber into said inner and outer chambers with said inner chamber being on one side of said mixing plate and said outer chamber being on an opposing side of said of said mixing plate, said mixing plate being rotatably supporting a mixing apparatus operable supported within said mixing chamber for operation at high speeds to break-up cement and water into fine particles to be combined to form said cement slurry, said mixing plate being operable to convey said cement slurry to said outer chamber for further mixing by said mixing plate before being discharged from said mixing chamber to be combined with said aggregates; and

~~————— a metering mechanism to control the rate of inflow of cement into the mixing~~
chamber.

34. (Currently Amended) The turbine mixer of Claim 33 wherein said mixing apparatus includes:

~~a mixing plate having a plurality of agitating fins mounted thereon to effect an atomization of said cement and said water to create said cement slurry~~ a metering mechanism to control the rate of inflow of cement into the mixing chamber.

35. (Currently Amended) The turbine mixer of ~~Claim 34~~ Claim 33 wherein said ~~mixing plate divides said mixing chamber into an inner chamber and an outer chamber, said cement and said water being received in said inner chamber and said cement slurry being discharged from said outer chamber, said agitating fins being~~ agitators are mounted on a circumferential periphery of said mixing plate.

36. (Original Claim) The turbine mixer of Claim 35 wherein said mixing chamber is formed as a cylindrical structure having a first diameter, said mixing plate having a second diameter smaller than said first diameter to form an annular gap between said mixing plate and said cylindrical structure, said cement slurry passing through said annular gap to move from said inner chamber to said outer chamber to be discharged from said mixing chamber.

37. (Original Claim) The turbine mixer of Claim 36 further comprising:

a housing having an inlet opening therein for communication with said metering mechanism for the metered supply of cement into said mixing chamber;

an inlet port supported on said housing and connected with a supply of water;

said mixing chamber receiving dry cement through an inlet opening and water through said inlet port.

38. (Original Claim) The turbine mixer of Claim 36 wherein said mixing plate is also formed with blades positioned in said inner chamber to direct material outwardly toward said annular gap for passage therethrough into said outer chamber.

39. (Original Claim) The turbine mixer of Claim 35 wherein said mixing chamber includes a discharge port and an adjustable slide plate having a discharge opening therein registrable with said discharge port, said adjustable slide plate being movable on said outer chamber to vary the position of the discharge opening relative to said agitating fins on said mixing plate for varying the mixing operation of the mixing apparatus.

40. (New) In a mobile concrete production apparatus including a frame; an aggregate hopper supported on said frame for carrying a supply of aggregate; a cement hopper supported on said frame for carrying a supply of dry cement; a water tank supported on said frame for holding a supply of water; a mixing auger for mixing components to produce concrete; an aggregates conveyor operably associated with the aggregate hopper to convey aggregate to said mixing auger; and a metering mechanism for conveying said dry cement from said cement hopper in measured quantities, the improvement comprising:

a turbine mixer supported by said frame and being operable, while said mobile concrete production apparatus is producing concrete within said mixing auger, to receive a continuous supply of dry cement from said metering mechanism and a continuous supply of

water from said water tank to pre-mix said cement and said water into a cement slurry before being introduced into said mixing auger to be combined with said aggregate, said turbine mixer defining a mixing chamber within which mixing plate is rotatable at high speeds to mix said water and said dry cement into said cement slurry.

41. (New) The mobile concrete production apparatus of Claim 40 wherein said mixing chamber is in flow communication with a housing positioned to receive said dry cement from said metering mechanism, said housing including an auger for conveying said dry cement into said mixing chamber, said mixing plate dividing said mixing chamber into a first chamber and a second chamber, said mixing plate having a smaller diameter than said mixing chamber to define an annular gap therebetween, said cement slurry created in said first chamber being able to pass from said first chamber into said second chamber by flowing through said annular gap.

42. (New) The mobile concrete production apparatus of Claim 42 wherein said mixing plate includes a plurality of agitating fins mounted on a circumferential periphery of said mixing plate to effect a mixing of said cement and said water to create said cement slurry and a movement of said cement slurry through said annular gap.

43. (New) The mobile concrete production apparatus of Claim 42 wherein said second chamber includes a positionally adjustable discharge opening.

44. (New) The mobile concrete production apparatus of Claim 42 wherein said mixing plate is also formed with blades positioned in said first chamber to direct material outwardly toward said annular gap for passage into said second chamber.

45. (New) The mobile concrete production apparatus of Claim 42 wherein said first chamber is formed with pegs positionally fixed within said first chamber to cooperate with said agitating fins to break said dry cement and water into fine particles for the production of said cement slurry.

46. (New) A turbine mixer for pre-mixing cement and water to create a cement slurry to be combined in a concrete production apparatus with aggregates for the production of a concrete mixture comprising:

a mixing chamber having a rotatable mixing plate dividing said mixing chamber into an inner chamber receiving a continuous metered supply of said cement along a first flow path and a continuous metered supply of said water along a second flow path for engagement with said mixing plate to create said cement slurry and into an outer chamber for further mixing said cement slurry and discharge thereof from said mixing chamber, said turbine mixer being operable to receive continuous supplies of said cement and water and continuously discharging said cement slurry while said concrete production apparatus is producing concrete.

47. (New) The turbine mixer of Claim 46 wherein said mixing plate is rotatable at high speeds and cooperable with pegs fixed within said inner chamber to break-up said cement and water into fine particles to be combined within said inner chamber to form said cement slurry.

48. (New) The turbine mixer of Claim 47 wherein said mixing plate has a smaller diameter than said mixing chamber to define an annular gap therebetween, said cement slurry created in said inner chamber being able to pass from said inner chamber into said outer chamber by flowing through said annular gap.

49. (New) The turbine mixer of Claim 48 wherein said mixing apparatus includes a housing in flow communication with said inner chamber and being positioned to receive said cement from a metering mechanism, said housing including an auger for conveying said cement into said inner chamber.

50. (New) The turbine mixer of Claim 49 wherein said mixing plate is formed with a plurality of agitating fins mounted on a circumferential periphery of said mixing plate to effect a mixing of said cement and said water to create said cement slurry and to effect a movement of said cement slurry through said annular gap.

51. (New) The turbine mixer of Claim 50 wherein said mixing plate is also formed with radially extending blades positioned in said inner chamber to direct material outwardly toward said annular gap for passage into said outer chamber.

52. (New) The turbine mixer of Claim 51 wherein said auger in said housing includes a central shaft with a spiral flighting affixed thereto, said mixing plate being attached to an end of said shaft which is rotated by a drive mechanism for rotation of said auger and mixing plate at a rotational speed greater than 500 revolutions per minute.

53. (New) The turbine mixer of Claim 52 wherein said outer chamber includes a discharge port and an adjustable slide plate having a discharge opening therein registrable with said discharge port, said adjustable slide plate being movable on said second chamber to vary the position of the discharge opening relative to said agitating fins on said mixing plate for varying the mixing operation of the mixing apparatus.